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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,796

08/09/2006

Daisuke Kojima

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23850 7590 02/24/2009  
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EXAMINER

PAUL, JESSICA MARIE

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

02/24/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/588,796	<b>Applicant(s)</b> KOJIMA ET AL.	
	<b>Examiner</b> Jessica Paul	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Response to Amendment***

In response to the Amendment received on October 30, 2008, the examiner has carefully considered the amendments. The examiner acknowledges amended claims 4 and 5; and that claims 1-3 have been withdrawn.

### ***Response to Arguments***

Applicants' arguments with respect to claims 4 and 5 have been considered but are moot in view of the new ground(s) of rejection. The new rejections are necessitated by applicants' amendments.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Amended claims 4 and 5 include the limitation

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"which does not contain any organic acid salt of melamine." There is no support, whether to include or exclude this component, for this amendment in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite "a photocurable resin composition comprising a carboxy-containing unsaturated resin (A) obtained by reacting a carboxy-containing resin (a) with an epoxy-containing unsaturated compound (b); a solvent (B); and a biphenol-type epoxy resin or a novolac-type epoxy resin, and which does not contain any organic acid salt of melamine. It is unclear as to whether the biphenol-type epoxy resin or novolac-type epoxy resin is intended to further identify the epoxy-containing unsaturated compound (b); or if it is added as a separate component, such as (C). In view of Production Example 3 in the instant application, and for purpose of further examination, the examiner takes the position that the biphenol-type epoxy resin and novolac-type epoxy resin reads on applicants' required epoxy-containing unsaturated compound (b).

Also, the claims recite a "biphenol-type" or a "novolac-type," but applicants do not make clear what is meant by "biphenol-type" or "novolac-type." Without definition, the examiner cannot determine the meaning of "biphenol-type" or "novolac-type," thus claims 4 and 5 are found indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Takao and Minoru (JP 2003-149475).

Takao and Minoru teach a resin composition for optical waveguides comprising a mixture of an ethylenically unsaturated carboxylic resin (A), a diluent (B), and a photopolymerization initiator (C) [0006]. The carboxylic resin (A) has at least one ethylene nature unsaturation group and at least one carboxyl group in the molecule. As a more desirable embodiment, the carboxylic resin (A) is composed by an epoxy resin (a), acrylic acid (b), and an optional component which has at least two epoxy groups. As an example of an epoxy resin (a) having at least two epoxy groups in a molecule, a bisphenol-A type epoxy resin, bisphenol-F type epoxy resin, and novolac type epoxy resins, just to name a few [0007-0009]. Also, a resin obtained by reacting one carboxylic acid, which has two hydroxyl groups, and a polybasic acid anhydride may be incorporated into the resin [0007]. This resin reads on applicants' required carboxy-containing resin (a). The acrylic acid (b) also reads on applicants' required carboxy-containing resin, wherein the acrylic acid has the same properties and functions of a carboxy-containing resin. The epoxy resin (a), disclosed by Takao and Minoru, reads on

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applicants claim to a biphenol or novolac-type epoxy resin; The optional component as disclosed by Takao and Minoru, which as at least two epoxy groups, reads on applicants' claim to the epoxy-containing unsaturated compound, and the diluent reads on applicants required solvent (B). Takao and Minoru teach the use of the disclosed resin composition in an optical waveguide, wherein said resin could be used as a core, lower, or upper cladding layer, wherein upon curing, and the resin composition reads on applicants' claim to a photocurable dry film [0024-0032]. The examiner also notes that Production Example 3, disclosed as a preferred embodiment, is identical to Example 1 as disclosed by Takao and Minoru [0028-0029].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takao and Minoru (JP 2003-149475) as evidenced by Sato et al. (US Serial No. 2001/0003759).

In the instance that the biphenol-type or novolac-type epoxy resin is not intended to read on the epoxy-containing unsaturated resin (b), as disclosed in the instant application, but intended to be in addition to the carboxy-containing unsaturated resin (A); Takao and Minoru do not teach the photocurable resin composition further

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comprising a biphenol-type or novolac-type epoxy compound. The disclosure of Takao and Minoru is adequately set forth above and is herein disclosed by the reference.

Sato et al. discloses a photocurable resin composition which comprises (A) an acid-modified, vinyl group-containing epoxy resin, (B) an elastomer, (C) a photo polymerization initiator, (D) a diluent, and (E) a curing agent. The acid-modified, vinyl group-containing epoxy resin for use as component (A) is an epoxy resin modified by a vinyl group-containing monocarboxylic acid, preferably a resin obtained by reaction of at least one epoxy resin (a) selected from the group consisting of novolac type epoxy resin, bisphenol A type epoxy resin, or bisphenol F type epoxy resin with a vinyl group-containing monocarboxylic acid (b) [0009-0015]. The vinyl group-containing monocarboxylic acid (b) includes acrylic acid, methacrylic acid, to name a few [0021]. The curing agent (E) is preferably compounds that are curable by heat and/or UV, that are curable together with the carboxyl groups and hydroxyl groups of acid-modified, vinyl group-containing epoxy resin (A). Examples of said curing agent (E) include epoxy compounds, such as bisphenol A type epoxy resins, bisphenol F type epoxy resins, and hydrogenated bisphenol A type epoxy resins [0051]. Sato et al. demonstrates that the curing agents are useful in improving the heat resistance, adhesive properties, and chemical resistance of the photocurable resin [0051], and therefore it is well settled that it is prima facie obvious to add known components for their properties and to be useful for the same purpose. See *In re Linder*, 173 USPQ 356.

***Correspondence***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica Paul whose telephone number is (571)270-5453. The examiner can normally be reached on Monday thru Friday 8:00- 6:00p; alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jessica Paul  
Examiner  
Art Unit 1796

/JMP/

/Sanza L McClendon/

Primary Examiner, Art Unit 1796